REPLACING SCRUBBING MEDIA

When deposits are visible 75% of the way up the housing, the scrubbing media needs to be replaced.

1. Unscrew thumbscrew on bottom of housing.
2. Swing yoke to one side.
3. Separate housing and bottom cap as an assembly fro top cap.
4. Remove spring and top screw.
5. Remove old media and dispose of properly (housing may be rinsed with soapy water to clean).
6. Fill housing with 135cc of berl saddles (tap housing to allow material to settle).
7. Replace stainless steel screen on top of berl saddles.
8. Pour 65cc of scrubbing media.
9. Replace stainless steel screen on top of media.
10. Replace spring on top of screen.
11. Clean o-rings on shell and inside top manifold (replace if necessary).
12. Place center tube into o-ring seal in top cap.
13. Push and twist to seal housing around o-ring.
14. Replace yoke and tighten thumbscrew finger tight (do not over-tighten).

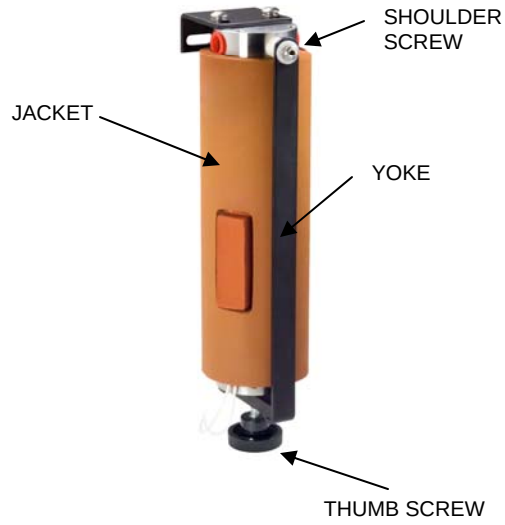
WARNING!

DO NOT over-tighten the thumbscrew. Doing so may cause the housing to crack.

Goggles and Gloves should be worn when replacing media

CAUTION: Allow unit to cool before handling

HEATER JACKET SETUP



Power supply connection for heater jacket

1. Connect 115/230 VAC power supply to wires on scrubber (note: white wire must be capped with wire nut since voltage is present when heater is energized in 230 VAC operation).
2. Allow heater jacket to run for 15-20 minutes before starting sample flow (heater is equipped with thermocouple and thermostat to regulate heater).

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Original Instructions ¦ Bulletin # 250

AS™-Series

Ammonia Scrubber

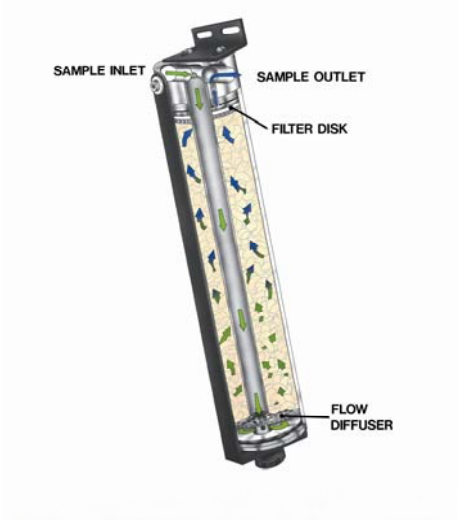
User Manual

PERMA PURE

Principle of Operation

AS°-Series Ammonia Scrubbers remove ammonia from a gas stream to protect analyzers and sample lines from clogging due to the formation of ammonium salts.

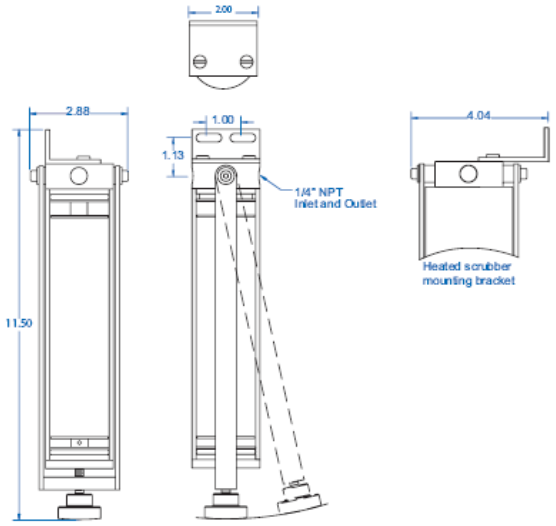
Ammonia reacts with phosphoric acid, forming ammonium phosphate. This relatively high melting point salt immediately deposits inside the ammonia scrubber, removing it from the gas stream. The reaction is quite selective, and does not affect the concentrations of other gases in the stream.



Phosphoric acid is very hydroscopic so it will draw water from the gas stream, creating some liquid phosphoric acid solution in the bottom of the scrubber. To avoid excess liquid formation, the scrubber should be heated, either by installation in a heated enclosure or by using a heated scrubber.

The AS-Series proprietary scrubber media has been formulated for continuous operation. Its life expectancy is dependent upon the sample flow rate and ammonia concentration in the gas stream. It is very selective in its reactions with the gas, removing only ammonia, It is also a very safe, stable chemical to handle and store.

Mounting Arrangement



All dimensions are in inches

Mount scrubber in a vertical orientation using the angle bracket provided. Connect gas sample lines to the labeled inlet and outlet ports. Be sure to connect sample inlet to port marked “IN” on the scrubber housing

Ammonia Scrubber Specifications

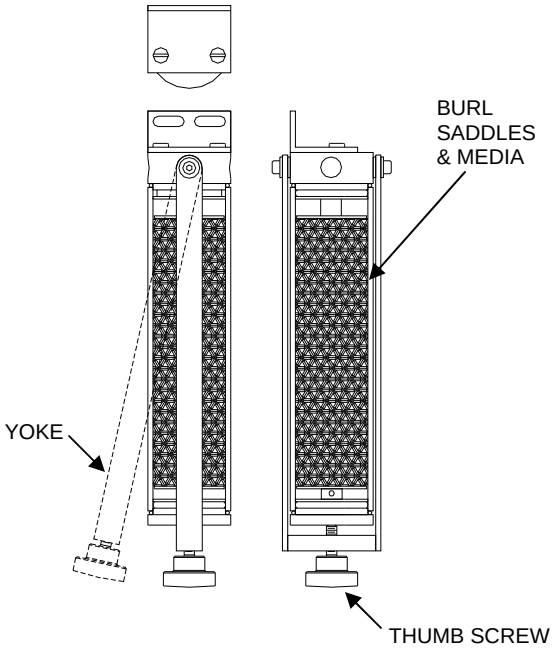
Material of Construction	Polysulfone	Stainless Steel
Pressure	30 psig	100 psig
Temperature	120°C	150°C *
Port size	1/4” NPT	1/4” NPT
Operating Environment	-20°C to 40°C Ambient Temp. 0-95% RH	
Power	30W @ 115V ±10% or 230V ±10%	

* When thumbscrew is replaced with SST hex bolt.

This equipment is to be installed & operated by trained personnel, with sufficient command of the English language to clearly understand the instructions & safety warnings.

Performance

The ammonia scrubber performance varies depending on the concentration of ammonia and flowrate of the gas sample. At a flowrate of 1 lpm and 1 ppm of ammonia, media should last 40,000 hours.



REPLACEMENT PARTS

Part Number	Description
AS-200-08-PSH	Stainless steel top & bottom with polysulfone shell
AS-200-08-SSH	Stainless steel top & bottom with stainless steel shell
AS-200-3	O-ring replacement set
AS-200-08-EB	1L (15 fillings) replacement burl saddles and media